DOCUMENT RESUME

ED 246 163 UD 023 686

AUTHOR Bean, Frank D.; And Others
TITLE Fertility and Labor Supply among Hispanic American Women.
SPONS AGENCY Texas Univ., Austin. Population Research Center.
PUB DATE Sep 82
NOTE 37p.; Also contained in UD 023 679.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Birth Rate; Cubans; *Employed Women; Females; *Hispanic Americans; *Labor Supply; Language Proficiency; Mexican Americans; *Mothers; Parent Role; Predictor Variables; Puerto Ricans; *Role Conflict
IDENTIFIERS Survey of Income and Education

ABSTRACT

This paper considers the effects of fertility on the labor supply of Cuban, Mexican, and Puerto Rican women in the United States. Drawing on the notion of "role incompatibility"--the degree to which the joint provision of child care and work are in conflict--the study examines whether having characteristics that increase the likelihood of participation in the secondary-type of labor market mitigates the effects of fertility on labor supply. The nature of the labor market to which these women might have access is indexed by the women's English proficiency, generational status, educational level, and husband's income level. In addition, the effects of the presence in the household of older children and other adults are considered. Results indicate that all of these variables are significant in their interactions with fertility. Further, although there are differences among the groups, in general the pattern of results is consistent with the prediction derived from the role-incompatibility hypothesis: high fertility will depress the female labor supply if and when women are placed in situations where they must choose between mothering and employment. Cuban American women seem to be less deterred from working by the presence of children in proportion to higher socioeconomic status and greater English proficiency. (CMG)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED246163

Fertility and Labor Supply Among Hispanic American Women

Frank D. Bean
Department of Sociology
University of Texas at Austin

Gray Swicegood
Department of Sociology
University of Texas at Austin

Allan G. King
Department of Economics
University of Texas at Austin

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Patricia H. McNeill
Natl Comm. for Empl. Policy
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

UD023686

The support and assistance of the facilities and personnel of The Population Research Center at the University of Texas at Austin are gratefully acknowledged, as are the comments of Robert Bach, Glen Cain, Robert Kaufman, Solomon Polachek, Stanley Stephenson, Teresa Sullivan, and Marta Tienda. Errors remain the responsibility of the authors.

Fertility and Labor Supply Among Hispanic American Women

It has been recognized for some time that explanations of the association between fertility and female labor force behavior must take into account the possibility that both the nature and strength of the relationship vary with the level of socioeconomic development (Piepmeier and Adkins, 1973; Safilios-Rothschild, 1977; Standing, 1978). Recent studies of the relationship between these two variables in developed societies have focused on the problems of (a) investigating the timing of fertility events in relation to the timing of labor force events (Cramer, 1980; Smith-Lovin and Tickamyer, 1982; Waite, 1981), and (b) disentangling the direction of influence between fertility and labor supply variables, frequently through the use of simultaneous equation procedures (Cain and Dooley, 1976; Fleischer and Rhodes, 1979; Rosenzweig and Wolpin, 1980; Schultz, 1978; Smith-Lovin and Tickamyer, 1978; Waite and Stolzenberg, 1976). It is not certain whether these approaches must be modified in the case of ethnic minorities in developed countries, particularly given the fact that such groups often contain high proportions of immigrants who have emigrated from developing countries (e.g., Sullivan and Pedraza-Bailey, 1979) and given that the structure of employment opportunities often available to recent immigrants and minority workers may be different in a number of respects from that available to natives and majority group members (Bonacich, 1972; Boyd, 1980; Chiswick, 1978; Portes and Bach, 1980; Wilson and Portes, 1980).

This paper focuses on the relationship of fertility to labor supply among groups of Mexican American, Cuban American, and Puerto Rican women.

The concern is with testing a number of specific hypotheses that derive from the general notion that the trade-offs women make between child care and work vary with particular circumstances. We treat fertility explicitly as a determinant of labor supply rather than consider the effects of labor participation and supply on fertility. As noted below, we do this primarily because of the nature of our data. Under different circumstances, these variables may be jointly and simultaneously determined. Further, we argue that because some of the women in the samples under investigation have immigrated to the United States from countries with lower levels of development and, for associated reasons, because they may encounter a structure of employment opportunities different from those available to nonimmigrant and nonminority women, fertility among immigrant women may be less constraining on labor force activity.

IDEAS AND HYPOTHESES

The central notion guiding the research is that the demands of child care and of working are often in conflict, an idea that in the sociological literature has often been termed the "role-incompatibility hypothesis" (Mason and Palan, 1981; Stycos and Weller, 1967) and one that derives from the analysis of the allocation of time in the economics literature (Becker, 1965; Mincer, 1962). Stated briefly, the hypothesis predicts an inverse association between fertility and work when women are placed in situations that require "trade-offs between their participation in productive employment and the number of children they bear" (Mason and Palan, 1981, p. 551). The amount of conflict between working and mothering has typically been thought to vary depending upon (a) the orga-

nization of production and (b) the organization of child care. To the extent that the industrial organization of employment removes work from the home, thus contributing to the separation of the functions of the family from other institutions, female employment requires nonmaternal arrangements for child care if both childbearing and work are to occur at the same time. The availability of parental surrogates in the household serves to diminish this incompatibility, and thus to reduce the likelihood of the emergence of a negative association between fertility and female employment. Such alternatives, it is often argued, are more characteristic of the situations of Third World women, and their availability would serve to mitigate conflicts between working and mothering.

Even though it constitutes the point of departure for the present research, the role-incompatibility hypothesis contains a number of deficiencies that require mention. First, the hypothesis is essentially static in nature and thus begs the question of the direction of causality between fertility and labor supply variables—does having more children reduce the paid work of mothers, or vice versa?--and between these two variables and other variables that may jointly affect them. Nonetheless, it is reasonable to hold questions of that nature in abeyance pending further investigation of the conditions that may modify the strength of association between the two variables, particularly in light of the difficulties that beset the estimation of statistical models containing both interactions and jointly endogenous variables.

Another difficulty is that the role-incompatibility hypothesis provides no basis for predicting a positive relationship between fertility and labor force participation (Mason and Palan, 1981)—i.e., that the more children a woman has, the more she may be gainfully employed.

Since positive associations have been reported in the literature (Goldstein, 1972; Weller, Bertrand, and Harter, 1979), the most satisfactory theory would be one that accounts for the full range of observed variation in strength of association. The kinds of considerations invoked in the role-incompatibility hypothesis, however, speak more to the circumstances under which a negative relationship might not be found. Because a positive relationship appears to have been observed most typically among rural women in developing societies (Mason and Palan, 1981), a circumstance that is not particularly characteristic of the women under investigation here, the present research will confine its attention to the investigation of factors that might be expected to mitigate the strength of a negative relationship between fertility and labor supply.

We examine three categories of variables that might be expected to modify the relationship of fertility and work. These include household composition variables, which we take to indicate variation in the domestic organization of child care, and socioeconomic and ethnicity variables, which we take as indicators of access to the organization of production. In the case of the socioeconomic and ethnicity variables, we assume that certain characteristics of Hispanic women are associated with a relative lack of access to certain part of the occupational opportunity structure, and that this affects the nature of the trade-offs such women make between fertility and work.

Household Composition

The organization of the household to provide child care substitutes is clearly a factor that might be expected to diminish the incompatibility between maternity and work, and thus lessen the strength of

the relationship between fertility and work. This factor has usually been measured indirectly (using rural versus urban residence, for example), and one recent study that more directly examined household organization variables generated conflicting findings (Mason and Palan, 1981). Nonetheless, variables that directly or indirectly measure the household organization of child care bear further scrutiny at the individual level, particularly in light of recent findings that the availability of child care outside the household weakens the constraint of fertility on employment (Stolzenberg and Waite, 1981). In general, we would expect that the availability in the household of other persons who might take care of the children will weaken the inhibiting influence of fertility on labor supply.

Socioeconomic Variables

Women in certain types of occupations, or women with characteristics that qualify (or disqualify) them for certain types of work, may be hypothesized to experience greater conflict in maternal versus work roles. For example, women in higher status jobs and/or women in the more "central" as opposed to "peripheral" sectors of the economy, where work discontinuities might be more likely to have adverse earnings and promotion consequences, ought to be more likely to experience greater role incompatibility and thus more likely to exhibit a negative relationship between fertility and work. For example, King (1978) has shown that in a market that offers a range of choices between work and leisure, women with young children are more likely to work. Because an examination of the characteristics of jobs is beyond the scope of the present paper, we focus on wife's education, the relative lack of which in many instances

may serve as disqualification for entry into jobs where work continuity is important (Polachek, 1975). Women with lower levels of education are thus assumed to be more likely to hold jobs in the more peripheral sectors of the economy. Because entry and exit from such jobs is less likely to have negative earnings consequences, such women are hypothesized to be less likely to exhibit a negative relationship of fertility to work.

A similar pattern is predicted in the case of husband's income, although for somewhat different reasons. Women whose husbands have low earnings may be expected to have a greater need to contribute to family income, regardless of level of childbearing (Randall, 1977). In fact, other things being equal, greater childbearing might even be associated among these women with a greater need to work. In short, we hypothesize that as husband's income decreases, "role incompatibility" becomes less and less relevant to decisions about whether and how much to work. Hence, fertility is less likely to constrain labor force participation among women whose husbands have low income, holding constant the market opportunities of the wife.

Ethnicity Variables

Two variables—nativity and degree of English proficiency—are also hypothesized to modify the relationship between fertility and work. As in the case of female education, lack of knowledge of English and not being born in the United States are more likely to be associated with limited access to jobs that entail greater role incompatibility of maternity and employment. Some immigrant women may even hold jobs that can be performed in the home or in the neighborhood or from which absences are

more likely to be tolerated. In addition, some of the immigrant women may be temporarily residing in the United States, either legally or illegally, and the market opportunities they face are likely to be perceived as far more temporary (and, perhaps, markedly superior) than those prevailing in their countries of origin. The presence of children may be less inhibiting to labor force participation under these temporary conditions than is typical for more permanent residents of these ethnic groups. Hence, a less negative association of fertility and work is predicted among women not born in the United States and among women with lesser knowledge of English.

Group Differences

As will be noted below, the number of Puerto Rican and Cuban women in the age range to which the analyses are restricted is relatively small. Nonetheless, the above hypotheses are examined separately for Mexican Americans, Puerto Ricans, and Cubans. No a priori hypotheses are offered about expected patterns of difference among the groups, although it seems reasonable to think that various community structure variables, such as the concentration of Cuban Americans in ethnic enclaves (Wilson and Portes, 1980; Sullivan and Pedraza-Bailey, 1979), may modify the manner in which certain variables mitigate the childbearing constraint on work. For example, it is thought that knowledge of English is not as critical a factor for finding a good job in the ethnic enclave as it is elswhere (Sullivan and Pedraza-Bailey, 1979). Hence, the predicted effects of this variable may not emerge in the case of Cuban women. In addition, the migration of Cubans to the United States is likely to be far more

permanent than for the other groups of Hispanics; and the effects of temporary residence may therefore not show up among them.

DATA AND METHODOLOGY

The analyses are based on data from the 1976 Survey of Income and Education (SIE), which was based on a stratified, multistage cluster sample of approximately 151,200 households in the United States. Additional information on the sampling design is available through the technical documentation of the SIE (U.S. Bureau of the Census, 1977). The data are especially valuable for present purposes because the 1976 SIE is the only intercensal national survey of sufficient size to provide samples of Mexican Americans, Puerto Ricans, and Cubans large enough for statistical analysis (even though this is arguable in the case of Cuban American women). Ethnic group membership in this research is defined from the point of view of women; hence these three ethnic groups are delineated on the basis of responses from women to a self-report ethnicity question. This question provides the only means available in the SIE for classifying women of Spanish origin or heritage into more refined ethnic categories.

The samples are restricted to currently married women aged 20 to 34. This delimitation makes it possible to examine the potential mediating role of husband's income in the relationship of fertility to labor supply. It also takes into account the fact that never married, separated, divorced, and widowed women face a different set of options than do their married counterparts when deciding how their fertility will influence their labor force behavior, including the amount of time they

work. The age restrictions placed on the sample are intended to maximize the accuracy of the fertility measures.

Measures of Fertility

The SIE does not contain information directly pertaining to fertility behavior. Data on the ages of household members and on family relationships among household members make it possible, however, to allocate children to mother(s) within the household. These data permit the derivation of measures of current and cumulative fertility that are analogous to "own-children" estimates (defined below) of fertility rates (Grabill and Cho, 1965; Retherford and Cho, 1978; Rindfuss and Sweet, 1977). In this research, analyses are conducted including measures of both cumulative and current fertility. The number of children under age 15 is used as a measure of cumulative fertility, and the number of children under age 3 is employed as a measure of current fertility.

Similar assumptions to those involved in calculating own-children annual rates apply to these measures. As enumerated by Rindfuss and Sweet (1977, p. 11), four implicit assumptions underlie the calculation of fertility rates based on survey data: (1) that ages of children and women are correctly reported; (2) that all children reside with their mothers; (3) that mortality is negligible for women and children; and (4) that all women and children are covered by the census. The extent to which these assumptions differentially apply to Hispanic groups as compared to other whites has been addressed in depth elsewhere (Bean and Swicegood, 1982; Bean, Swicegood, and Linsley, 1980). Space does not permit a repetition of that discussion here. Suffice it to say that, after a careful examination of the extent to which the assumptions are

met for these groups, particularly for Mexican Americans, it was concluded that own-children procedures generate fertility measures that can be satisfactorily used for studying the determinants and consequences of between- and within-group fertility differentials when they are restricted to women aged 20 to 34. The restriction does not severely limit the scope of the present analyses, since this age range includes that portion of the life cycle where fertility is highest and where potential role incompatibility might be expected to be greatest.

Measurement of Labor Supply and Other Variables

The analyses are based on the respondent's labor force status during the reference week of the survey and the number of weeks worked by the respondent in 1975 as measures of labor supply, although results are presented only for the latter variable. The pattern of associations involving the participation measure tended to be similar to that involving the number of weeks worked, but the results were less likely to be statistically significant. Measures of the amount of time worked in a given year may vary more strongly with fertility than does a dichotomous participation measure (employed versus not employed), since the amount of time worked allows for the possibility of gradations of incompatibility, whereas employed/unemployed does not.

Other variables included in the analyses are measures of ethnicity, of household composition, and of socioeconomic status. Also, controls are included for size of place of residence and wife's age and, in the analyses focusing on the effects of current fertility, for the number of children in the household aged 4 to 14. The two ethnicity variables are nativity—whether foreign or U.S. born—and English proficiency. English

proficiency is measured on a six-point scale ranging from "speaks English fluently" to "speaks no English." Two household composition measures are included--household complexity and number of children aged 12 and over. Complexity is determined by the number of families in the household, including subfamilies, plus the number of nonrelated adults residing in the household. Children aged 12 and over refers to all children in the household. The socioeconomic variables include husband's income and wife's education. The former is the total reported income of the husband in thousands of dollars in 1975; the latter is the number of years of schooling of the wife. Of the control variables, size of place of residence is measured by the rank size of the SMSA of residence across the 99 largest SMSAs; women not living in one of these SMSAs receive the maximum rank score of 100. The inclusion of this variable provides a crude control for fertility and labor supply differences across places of varying size (see, e.g., Cooney, 1978). Of the other control variables, wife's age is measured in years, and children aged 4 to 14 is simply the number of children within this age range in the household.

Plan of Analysis

Ordinary least squares regression analysis is employed to obtain estimates of relationships between the fertility measures and number of weeks worked. Because the latter variable includes zero values for women who are not participants in the labor force, we checked for bias in our estimates by also computing the analyses only for participating women. Very similar patterns of results emerged for the samples of participating women as compared to the total samples of women.

We treat fertility as an independent variable and labor supply as a dependent variable. We do this in part because of a primary interest in labor supply rather than fertility. More important, however, in the case of the cross-sectional SIE data, number of weeks worked is measured for the previous year, whereas the current and cumulative fertility variables represent the experience of the previous three and fifteen years respectively.

The basic statistical model is of the following type:

$$(1)\quad LS = \beta_0 + \beta_1 F + \beta_2 I + \beta_3 (F \cdot I) + \sum_{i=1}^{k} \gamma_i X_i + \varepsilon,$$

where LS is a measure of labor supply, F is a measure of fertility, I is a measure (or proxy for) role incompatibility or some other condition thought to modify the relationship between fertility and work, $F \cdot I$ is the interaction between fertility and role incompatibility (or other condition), the X_i are control variables, and ε is a stochastic disturbance term. Our basic expectation is that $\hat{\beta}_3$ will be significantly different from zero, its sign being determined by the particular variable interacting with fertility. In general, we expect fertility to be less of a constraint on the number of weeks worked the less is the "role incompatibility" indicated by the variable.

We estimate the OLS regression models for the three Hispanic groups separately. Not only do Mexican American, Puerto Rican, and Cuban American women exhibit considerably different levels of fertility and patterns of labor force behavior, but they also tend to reside in totally different parts of the country. While separate estimates of patterns of relationship could be derived from a single regression estimate based

upon pooled samples, this approach seems unwarranted given the heterogeneity of the groups. Hence, separate estimates based upon separate equations are presented.[1]

EMPIRICAL RESULTS

Descriptive statistics for the variables included in the regression models are presented in Table 1. The descriptive data contain few surprises and duplicate for the most part the picture of differences among these three groups that has emerged from previous research. Mexican American and Puerto Rican women exhibit lower totals for number of weeks worked than do Cuban American women, and Puerto Rican women show a slightly higher value than Mexican American women, a pattern that is just the opposite of that which appears when participation rates are examined (see, e.g., Tienda, 1981). Mexican American women reveal the highest levels of both current and cumulative fertility, followed by Puerto Rican and Cuban American women. A substantially higher proportion of the Mexican American women were born in the United States than is the case for the other two groups (almost all of the Cuban Americans were born in Cuba), and perhaps for this reason the Mexican Americans show a slightly higher average level of English proficiency. Very few of the households in any of the groups contain additional families or nonrelative adults, and the Cuban American households are more likely than the Mexican American and Puerto Rican women to contain a greater number of children aged 12 and over. Not unexpectedly, the Mexican Americans are characterized by the lowest levels of education and income and the Cuban Americans by the highest; the Puerto Ricans in between, although much

Table 1

Means and Standard Deviations of Variables Included in Regression Analyses of Currently Married Hispanic Women, Aged 20-34

Variables	Mexican Americans		Puerto Ricans		Cuban Americans	
	Mean	SD	Mean	SD	Mean	SD
Labor Supply						
Weeks Worked	18.03	21.48	19.28	22.92	27.03	23.81
Fertility Variables						
Children < Age 15	1.98	1.46	1.77	1.28	1.55	1.27
Children < Age 3	.51	.65	.40	.56	.27	.52
Ethnicity Variables						
Nativity (foreign-born)	.30	.46	.78	.42	.95	.22
English Proficiency	4.60	1.44	4.29	1.39	4.33	1.05
Household Structure Variables						
Household Complexity	1.05	.24	1.02	.14	1.03	.17
Children > Age 12	.28	.75	.26	.66	.46	1.05
Socioeconomic Variables						
Husband's Income	8.86	5.62	8.96	5.94	12.66	9.66
Wife's Education	10.23	3.30	10.69	3.12	11.72	2.85
Additional Control Variables						
Rank Size of SMSA	57.61	0.70	20.30	32.54	28.90	5.33
Wife's Age	26.89	4.15	27.29	4.31	28.29	4.32
Children Aged 4 to 14	1.47	1.42	1.37	1.33	1.28	1.25
(N)	(845)		(152)		(53)	

Note: Data base is the 1976 Survey of Income and Education. See text for description of the variables.

closer to the Mexican American levels. The data also reveal a tendency for the Puerto Rican and Cuban American women to be concentrated in larger SMSAs and for the Cuban American women to be somewhat older on average than women in the other two groups.

Before examining the results of the regression models including interaction terms, we first look at the additive models containing the socioeconomic status and control variables (which are included in all models) and each of the ethnicity and household composition variables in turn (Tables 2 through 4). Separate sets of regressions are presented for cumulative and recent fertility to ascertain whether the presence of young children has a stronger inhibiting effect on female labor supply than does cumulative fertility. In the case of the regressions involving recent fertility, the number of children aged 4 to 14 is included as a control in order to make sure that any negative relationships between fertility and work do not simply reflect the tendency for women who have already completed their childbearing to work more.

All three groups reveal the expected negative relationship between fertility and female labor supply; the relationship involving cumulative fertility is slightly weaker in the case of Mexican American women than in the cases of Puerto Rican and Cuban American women. Also, when recent fertility as opposed to cumulative fertility is examined, the relationship is considerably stronger, especially among Cuban American women. Hence, these results are consistent with the ideas that (a) fertility constrains labor supply among Hispanic married women, and (b) recent fertility has a greater inhibiting influence on labor supply than cumulative fertility, a result that we interpret as owing to the greater child care demands required for younger children.

Table 2

Additive Regression Models for Weeks Worked on Fertility and Alternative Independent Variables: Mexican Americans (Unstandardized Coefficients)

Independent Variables	Models (1)	(2)	(3)	(4)	(5)
	A. Cumulative Fertility				
1. Children < 15	-3.925*	-3.919*	-3.931*	-4.189*	-4.023*
2. Husband's Income	-.494*	-.493*	-.565*	-.474*	-.540*
3. Wife's Education	1.042*	1.056*	.416**	1.065*	1.019*
4. Wife's Age	.827*	.825*	.882*	.664*	.761*
5. Rank SMSA Size	.055*	.055*	.043*	.051*	.051*
6. Nativity	—	.207	—	—	—
7. English Proficiency	—	—	2.560*	—	—
8. Children > 12	—	—	—	2.553	—
9. Household Complexity	—	—	—	—	-11.384*
Constant	-5.893	-6.070	-11.340	-1.894	8.652
R^2	.122	.122	.140	.128	.137
	B. Recent Fertility				
1. Children < 3	-9.326*	-9.355*	-8.829*	-8.650*	-9.318*
2. Children 4-14	-2.664*	-2.618*	-2.787*	—	-2.783*
3. Husband's Income	-.480*	-.477*	-.540*	-.487*	-.524*
4. Wife's Education	1.016*	1.092*	.508	1.255*	.994*
5. Wife's Age	.452*	.434*	.532*	-.005	.395*
6. Rank SMSA Size	.048*	-.051*	.039*	.047*	.049*
7. Nativity	—	1.165	—	—	—
8. English Proficiency	—	—	2.086*	—	—
9. Children > 12	—	—	—	.123	—
10. Household Complexity	—	—	—	—	-10.896*
Constant	-5.620	4.751	.061	-.730	19.323
R^2	.155	.155	.167	.134	.168

*Statistically significant at the 5% level.
**Statistically significant at the 1% level.
Dash indicates deleted from regression.

Table 3

Additive Regression Models for Weeks Worked on Fertility and Alternative Independent Variables: Puerto Ricans (Unstandardized Coefficients)

Independent Variables	Models (1)	(2)	(3)	(4)	(5)
	A. Cumulative Fertility				
1. Children < 15	-5.030**	-5.213**	-5.066**	-6.287**	-4.814**
2. Husband's Income	.005	.034	.001	.022	.051
3. Wife's Education	1.246**	1.327**	1.183**	1.038**	1.225**
4. Wife's Age	1.659**	1.595**	1.658**	1.328**	1.591**
5. Rank SMSA Size	-.051	-.044	-.050	-.030	-.054
6. Nativity	—	5.413	—	—	—
7. English Proficiency	—	—	.260	—	—
8. Children > 12	—	—	—	7.434**	—
9. Household Complexity	—	—	—	—	11.670
Constant	-29.415	-32.794	-29.742	-18.409	-39.970
R^2	.128	.137	.128	.162	.133
	B. Recent Fertility				
1. Children < 3	-11.823**	-11.866**	-12.152**	-10.669**	-11.582**
2. Children 4-14	-3.580**	-3.779**	-3.378**	—	-3.377**
3. Husband's Income	.092	.118	.109	.047	.137
4. Wife's Education	1.092**	1.170**	1.272**	1.244**	1.072**
5. Wife's Age	1.055**	1.007**	1.018**	.190	.991**
6. Rank SMSA Size	-.069	-.063	-.072*	-.080*	.072*
7. Nativity	—	5.054	—	—	—
8. English Proficiency	—	—	.783	—	—
9. Children > 12	—	—	—	3.734	—
10. Household Complexity	—	—	—	—	11.346
Constant	-10.952	-14.455	-8.776	5.280	-21.298
R^2	.158	.166	.160	.144	.138

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Dash indicates deleted from regression.

Table 4

Additive Regression Models for Weeks Worked on Fertility and Alternative Independent Variables: Cuban Americans (Unstandardized Coefficients).

Independent Variables	Models (1)	(2)	(3)	(4)	(5)
	A. Cumulative Fertility				
1. Children < 15	-5.203**	-5.002**	-6.032**	-5.171**	-4.850**
2. Husband's Income	.476*	.482*	.312	.474*	.541*
3. Wife's Education	.111	.017	-.710	.099	.079
4. Wife's Age	.274	.253	.894	.278	.310
5. Rank SMSA Size	.220*	.218*	.217*	.220**	.227**
6. Nativity	—	-4.284	—	—	—
7. English Proficiency	—	—	5.428*	—	—
8. Children > 12	—	—	—	-.119	—
9. Household Complexity	—	—	—	—	15.023
Constant	13.666	19.054	-14.292	13.715	-4.046
	.156	.157	.187	.156	.166
	B. Recent Fertility				
1. Children < 3	-17.535**	-17.477**	-18.382**	-17.511**	-17.133**
2. Children 4-14	-2.657	-2.632	-3.486	—	2.332
3. Husband's Income	.627**	.628**	.463*	.620**	.689**
4. Wife's Education	.574	.559	-.249	.378	.542
5. Wife's Age	-.126	-.128	.496	-.317	-.089
6. Rank SMSA S	.163*	.162*	.160*	.155*	.170*
7. Nativity	—	-.653	—	—	—
8. English Proficiency	—	—	5.445*	—	—
9. Children > 12	—	—	—	-3.327	—
10. Household Complexity	—	—	—	—	14.373
Constant	19.353	20.163	-8.688	25.501	2.378
R^2	.239	.239	.270	.243	.248

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Dash indicates deleted from regression.

Turning to other variables, we find that husband's income exhibits quite different relationships: whether it positively or negatively affects the number of weeks worked depends upon the particular Hispanic-origin group being examined. This reinforces the idea that heterogeneity among these groups requires their separate analysis. Among Mexican American women, we observe the frequently noted pattern of a lower likelihood for wives to work the higher the husband's income. No statistically significant relationship occurs among Puerto Rican women, while among Cuban American women higher husband's income is associated with a greater tendency for wives to work, other things being equal. We return below to an interpretation of this pattern of intergroup differences.

Wife's education tends to be positive and significantly related to number of weeks worked among Mexican American and Puerto Rican women, but it shows no significant relationship among Cuban American women. In the cases of the first two groups, this finding is consistent with the notion that female labor supply varies positively with the female wage rate, if we assume that, among these women, higher education is associated with higher wage rates and greater opportunity costs connected with staying home.[2] Wife's age exhibits a similar pattern of relationship. The coefficients are positive and significant among Mexican Americans and Puerto Ricans but inconsistent and insignificant among Cuban Americans. The positive relationships may be interpreted as indicating that labor supply increases with the termination of childbearing and as children grow older, thus easing the demands of child care (Waite, 1980).

Finally, it is of some interest to note that among Mexican American and Cuban American (but not Puerto Rican) women, living in a larger SMSA is associated with fewer weeks worked. In addition to the possibility that

increasing SMSA size may be associated with greater costs of working, thus tending to dampen female labor supply, this finding may be related to two types of seasonality. The Cuban women are largely concentrated in Miami, whose economy has a substantial seasonal component. Both Cuban and Mexican American women may find that larger cities offer them the opportunity to take jobs during the school year but to stay at home during the summer. Smaller cities, with less job differentiation, do not offer the same opportunities. In addition, many of the larger SMSAs with Mexican American concentrations may have some seasonal component of jobs often performed by women (e.g., food processing in California and Texas). This does not explain the finding among Puerto Rican women. Perhaps Puerto Rican women, like black women, may be developing "insurance" against the eventual loss of financial support from a husband. The percentage of households headed by women is nearly as large among Puerto Ricans as among blacks.

Focusing next on nativity and English proficiency, we find that having been born outside the United States bears no significant relationship to the number of weeks worked, once other variables are controlled. English language proficiency, however, is significantly and positively related to working among Mexican and Cuban, but not Puerto Rican, women. The relationship is about twice as strong among Cuban women, perhaps because of the greater range of occupational opportunities available to them (Sullivan and Pedraza-Bailey, 1979).

Of the household composition variables, no significant relationships emerge between number of weeks worked and the number of children in the household aged 12 and over, although the relationships are positive in the cases of Mexican American and Puerto Rican women. The measure of household complexity reveals quite large coefficients (although not all in the same

direction) in all cases. However, the number of observations on which these are based is very small, particularly in the cases of Puerto Rican and Cuban American women, thus contributing to their high standard errors. Among Mexican Americans, the group in which the largest number of complex families occurs, the coefficient is negative, indicating that a greater number of families and secondary adults sharing the same household is in and of itself associated with fewer weeks worked.

Turning to the question of whether fertility is less constraining on number of weeks worked under varying conditions, we present in Tables 5-7 tests for the hypothesized interaction effects, separately for measures of cumulative and current fertility and separately for the different groups. Table 5 shows first the relationships involving interactions between fertility and husband's income and fertility and wife's education. Among Mexican Americans, the coefficients for the interaction terms in the regression equations exhibit the expected negative sign and are significant in the case of the equations involving cumulative fertility. Taking partial derivatives and following the procedures for interpreting the results of these kinds of models suggested by Stolzenberg (1980), we find that the relationship between fertility and number of weeks worked becomes more negative with both rising husband's income and increasing wife's education. Among Puerto Ricans, cumulative fertility also increasingly inhibits the amount of time worked the greater is the wife's education. Hence, in the case of cumulative fertility among Mexican American and Puerto Rican women, three of the four tests give results consistent with the idea that fertility is less constraining on labor supply at low levels of socioeconomic status.

Table 5

Partial Metric Regression Slopes Relating the Interaction of Fertility and Socioeconomic Variables to Labor Supply[a]

Independent Variables	Mexican Americans (1)	Mexican Americans (2)	Puerto Ricans (1)	Puerto Ricans (2)	Cuban Americans (1)	Cuban Americans (2)
	A. Cumulative Fertility					
1. Children < 15	-1.734**	2.412**	-6.579**	5.854*	-15.400**	-5.385**
2. Husband's Income	.047	-.453**	-.314	.093	-.757*	.476*
3. Wife's Education	1.041**	2.319**	1.180**	3.352**	.130	.081
4. Interaction (1×2)	-.290**	--	.186	--	.935**	--
5. Interaction (1×3)	--	-.703**	--	-1.052**	--	.016
Constant	-10.574	-21.560	-26.244	-55.138	11.563	14.069
R^2	.129	.150	.131	.167	.257	.156
	B. Recent Fertility					
1. Children < 3	-8.491*	-7.646*	-20.622*	-1.534	-20.728*	-58.766**
2. Husband's Income	-.437*	-.480*	-.062	.066	.437	.678*
3. Wife's Education	1.017	1.107*	1.004	1.648*	.794	.124
4. Interaction (1×2)	-.101	--	.908	--	.278	--
5. Interaction (1×3)	--	-.173	--	-.974	--	3.268
Constant	5.356	4.770	-9.383	-15.732	19.350	30.100
R^2	.155	.155	.167	.165	.241	.252

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Dash indicates deleted from the regression model.
[a]Effects estimated net of wife's age, rank size of SMSA and (in the case of models including recent fertility) number of children aged 4 to 14.

Table 6

Partial Metric Regression Slopes Relating the Interaction of Fertility and Ethnicity Variables to Labor Supply[a]

Independent Variables	Mexican Americans (1)	Mexican Americans (2)	Puerto Ricans (1)	Puerto Ricans (2)	Cuban Americans (1)	Cuban Americans (2)
	A. Cumulative Fertility					
1. Children < 15	-5.070**	-.452	-9.274**	1.191	--	-23.269**
2. Nativity	-6.267**	--	-1.723	--	--	--
3. English Proficiency	--	4.476**	--	2.299	--	-.532
4. Interaction (1×2)	3.115**	--	4.965*	--	--	--
5. Interaction (1×3)	--	-.861**	--	-1.458*	--	4.024**
Constant	-5.017	5.115	-29.510	-42.250	--	18.013
R^2	.312	.149	.148	.139	--	.224
	B. Recent Fertility					
1. Children < 3	-10.504**	-.848	-17.055**	-8.466	--	-41.263
2. Nativity	-5.304**	--	-3.294	--	--	--
3. English Proficiency	--	3.427**	--	-.322	--	4.569
4. Interaction (1×2)	3.113**	--	5.791**	--	--	--
5. Interaction (1×3)	--	-1.901**	--	-.887	--	4.874
Constant	5.801	-4.998	-9.372	-12.254	--	-10.363
R^2	.165	.175	.181	.161	--	.275

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Dash indicates deleted from the regression model.
[a]Effects estimated net of wife's age, rank size of SMSA, and (in the case of models including recent fertility) number of children aged 4 to 14.

Table 7

Partial Metric Regression Slopes Relating the Interaction of Fertility and Household Composition Variables to Labor Supply[a]

Independent Variables	Mexican Americans (1)	Mexican Americans (2)	Puerto Ricans (1)	Puerto Ricans (2)	Cuban Americans (1)	Cuban Americans (2)
A. Cumulative Fertility						
1. Children < 15	-8.122**	-5.066**	--	-6.351**	--	-3.621
2. Household Complexity	-16.283**	--	--	--	--	--
3. Children > 12	--	-3.218**	--	6.496	--	16.796*
4. Interaction (1×2)	3.869**	--	--	--	--	--
5. Interaction (1×3)	--	1.887**	--	.294	--	-4.579*
Constant	13.271	-1.310	--	-18.568	--	17.896
R^2	.140	.139	--	.162	--	.187
B. Recent Fertility						
1. Children < 3	-16.309**	-8.592**	--	-11.725**	--	-16.559**
2. Household Complexity	-14.815**	--	--	--	--	--
3. Children > 12	--	.207	--	2.823	--	-3.279
4. Interaction (1×2)	6.591*	--	--	--	--	--
5. Interaction (1×3)	--	-.372	--	8.285	--	-13.876
Constant	23.411	11.212	--	9.164	--	25.623
R^2	.171	.134	--	.151	--	.249

*Statistically significant at the 10% level.
**Statistically significant at the 5% level.
Dash indicates deleted from the regression model.
[a]Effects estimated net of wife's age, rank size of SMSA and (in the case of models including recent fertility) number of children aged 4 to 14.

By contrast, Cuban American women reveal interaction effects that are in the opposite direction, although only one of the four tests shows a result that attains statistical significance. From the magnitude of the coefficients in the equation including the interaction of income and cumulative fertility, we can see that the relationship of fertility to work is most negative for Cuban American women whose husbands have lower incomes, and that the relationship becomes increasingly less negative as income rises. Although this result is based on a small number of cases, having larger families is apparently less likely to deter Cuban American women from working if their husbands have higher incomes.

Turning to the models that include the ethnicity variables (Table 6), we note that among Mexican American and Puerto Rican women, seven of the eight tests for interaction effects are statistically significant in the predicted direction. Having been born in Mexico and being less proficient in English are both associated with a reduction in the constraining influence of both cumulative and recent fertility on number of weeks worked. Among Cuban Americans, the opposite pattern occurs once again. Although the number of women in this group that were born in the United States is too small to allow a reliable assessment of the interaction of nativity and fertility, the test based on degree of English proficiency reveals that while family size sharply constrains working among women with poor English proficiency, it is less and less likely to affect the amount of time worked as English proficiency improves.

The measures of household composition also yield significant results in the predicted direction, but only among Mexican Americans (Table 7). Among Puerto Ricans and Cuban Americans, the number of women living in "complex" family situations is too small to allow reliable assessment of

interaction effects involving this variable. The results for Mexican American women, however, show that the presence of other persons in the household, either other adults or older children, mitigates the inhibiting influence of fertility on working. For Cuban American women, the opposite pattern emerges yet again in the case of the tests for interactions involving number of older children. The presence of older children in the household, who presumably might provide substitute child care, increases the likelihood among these women of fertility having a negative effect on working.

SUMMARY AND CONCLUSIONS

This paper has considered the effects of fertility on the labor supply of three groups of Hispanic women in the United States. Drawing on the notion of "role incompatibility"—the degree to which the joint provision of child care and work are in conflict—we addressed the question of whether having characteristics that increase the likelihood of participation in the secondary-type of labor market mitigates the effects of fertility on labor supply. The nature of the labor markets to which these women might have access was indexed by the women's English proficiency, generational status, and educational and husband's income levels. The role-incompatibility hypothesis directs our attention to the interaction of these variables with the various measures of fertility. In addition, we considered the effects of household composition variables which record the presence of older children and nonparental adults in the household as a factor which lessens the constraint of fertility on female labor supply.

Our results indicate that these variables are significant in their interactions with fertility, particularly among Mexican Americans, although

the signs of the effects are not always in the expected direction among Cuban Americans. The Mexican Americans seem to conform rather closely in their behavior to what we have hypothesized. Cuban Americans seem to be less deterred from working by the presence of children in proportion to higher socioeconomic status and greater English proficiency.

In general, then, the pattern of the results is consistent with the predictions derived from the role-incompatibility hypothesis. However, an alternative explanation might also be invoked to explain the findings. The more constraining influence of fertility on labor supply among Mexican American and Puerto Rican women who have higher socioeconomic status, are U.S.-born, and speak English more proficiently might be interpreted as reflecting a greater desire for chidren of "higher" quality (de Tray, 1974; Standing, 1978, p. 169) rather than as reflecting greater access to the kinds of labor markets for which the opportunity costs of inactivity are highest. While it might be argued that women with higher education may be more likely to devote time to the informal socialization and education of young children in order to achieve higher qualities in a child, it is not so readily apparent why this should hold for English-speaking but not Spanish-speaking women. Perhaps more to the point, the fact that among Mexican American women (and to a lesser extent among Puerto Rican women) the predicted interaction effects for the ethnicity but not the socioeconomic status variables emerge in the regressions involving recent fertility (which might be argued to be especially likely to pick up quality effects) suggests that desires for greater child quality probably do not underlie the observed results.

The anomalous results for the Cuban American women are based on such a small number of cases that not too much significance should be given to

them. Nonetheless, there are some features of the Cuban experience that would seem likely to render distinctive the ways in which fertility affects labor supply in this group. These derive primarily from the fact that the Cuban population is concentrated in an "ethnic enclave" in Miami. Associated with this are a greater likelihood of self-employment and greater opportunities to employ domestic servants, frequently from among recent immigrants (Portes, 1981; Portes, 1982). The less constraining influence of fertility on labor supply that occurs with rising socioeconomic status among Cuban American women may simply reflect the increasing likelihood of the possession of the resources required to take advantage of opportunities to provide alternative possibilities for child care. Further research among Cuban Americans based on larger samples than the ones available here may help to shed further light on these questions.

Finally, we concede that problems exist in specifying entirely satisfactory measures of fertility and labor supply. We find substantial agreement in the results obtained across the various measures employed, as well as support for the notion that Hispanic women are heterogeneous in their patterns of labor supply. Yet the need for refinements is obvious. Methodologically, it would be desirable to consider simultaneously the participation and weeks-of-work decisions, perhaps in the fashion proposed by Heckman (1976). In addition, it would be desirable if our conjectures regarding the nature of work and its complementarity with child care could be evaluated more directly. This seems possible, to a degree, by utilizing the sample of working women and noting the nature of the jobs they hold and their hours of work. If those with English-language deficiencies are concentrated in poorer jobs which may permit more flexible child care arrangements, then relationships among

language proficiency, job characteristics, and hours of work should be apparent in the data.

Notes

[1]Because disagreement exists concerning the question of whether to base estimates of statistical relationships among variables on weighted or unweighted samples, we have run our analyses both ways. The results do not differ markedly. In the tables in this paper, results based on weighted statistics are presented.

[2]It should be noted that we do not include a wage variable in the analyses. This is because a majority of the Mexican American women do not work, thus requiring that an attributed wage be calculated for these women. Since we include in the analyses the variables that would be used as predictors in such an equation (e.g., education and English proficiency), we feel that little would be gained by computing attributed wages.

References

Bean, Frank D., and Gray Swicegood. 1982. Generation, female education, and Mexican American fertility. Social Science Quarterly, forthcoming.

Bean, Frank D., Gray Swicegood, and Thomas F. Linsley. 1980. Patterns of fertility variation among Mexican immigrants to the United States. Paper No. 2.016, Texas Population Research Center, University of Texas at Austin.

Becker, Gary S. 1965. A theory of the allocation of time. Economic Journal, 75 (September), 493-517.

Bonacich, E. 1972. A theory of ethnic antagonism: The split labor market. American Sociological Review, 37, 547-559.

Boyd, Monica. 1980. The double negative: Female immigrants in the Canadian labor force. Paper presented at the annual meetings of the Population Association of America, Denver.

Cain, Glen, and Martin D. Dooley. 1976. Estimation of a model of labor supply, fertility and wages of married women. Journal of Political Economy, 84, S179-199.

Chiswick, Barry R. 1978. The effect of Americanization on the earnings of foreign-born men. Journal of Political Economy, 86, 897-921.

Cooney, R. 1978. Intercity variation in Puerto Rican female participation. Journal of Human Resources, 14, 222-235.

Cramer, James C. 1980. Fertility and female employment: Problems of causal direction. American Sociological Review, 45, 167-190.

de Tray, D.N. 1974. Child quality and the demand for children. In Economics of the Family: Marriage, children, and human capital, ed. T.W. Schultz. Chicago: University of Chicago Press.

Fleischer, Belton M., and George F. Rhodes, Jr. 1979. Fertility, women's wage rates, and labor supply. American Economic Review, 69 (March), 14-25.

Goldstein, S. 1972. The influence of labour force participation and education on fertility in Thailand. Population Studies, 26, 419-436.

Grabill, Wilson H., and Lee-Jay Cho. 1965. Methodology for the measurement of current fertility from data on young children. Demography, 2, 50-74.

Heckman, James. 1976. The common structure of statistical models of truncation, sample selection and limited dependent variables and a simple estimator for such models. Annals of Economic and Social Measurement, 5, 475-492.

King, Allan. 1978. Industrial structure, flexibility of working hours, and women's labor force participation. Review of Economics and Statistics, 60, No. 3, 399-407.

Mason, Karen O., and V. T. Palan. 1981. Female employment and fertility in peninsular Malaysia: The maternal role incompatibility hypothesis reconsidered. Demography, 18, 549-575.

Mincer, Jacob. 1962. Labor force participation of married women. In Aspects of labor economics, ed. H.G. Lewis. Princeton, N.J.: Princeton University Press, for the National Bureau of Economic Research.

Piepmeier, K.B., and T.S. Adkins. 1973. The status of women and fertility. Journal of Biosocial Science, 5, 507-520.

Polachek, Solomon. 1975. Discontinuous labor force participation and its effect on women's market earnings. In Sex, discrimination, and

the division of labor, ed. C. Lloyd. New York: Columbia University Press.

Portes, A. 1981. Modes of structural incorporation and present theories of labor immigration. In Global trends in migration, ed. M. Kritz, C. Keely, and S. Tomasi. New York: Center for Migration Studies.

Portes, A. 1982. Immigrants' attainment: An analysis of occupation and earnings among Cuban exiles in the United States. In Essays in honor of William Hamilton Sewell. New York: Academic Press.

Portes, A., and R. Bach. 1980. Immigrant earnings: Cuban and Mexican immigrants in the United States. International Migration Review, 14, 315-341.

Randall, N.H. 1977. Women's need for income: Their employment and earnings. Working Paper No. 77-2, Center for Demography and Ecology, University of Wisconsin, Madison.

Retherford, Robert D., and Lee-Jay Cho. 1978. Age-parity-specific birth rates and birth probabilities from census or survey data on own children. Population Studies, 32, 567-581.

Rindfuss, Ronald R., and James A. Sweet. 1977. Post-war fertility trends and differentials in the United States. New York: Academic Press.

Rosenzweig, Mark R., and Kenneth I. Wolpin. 1980. Life-cycle labor supply and fertility: Causal inferences from household models. Journal of Political Economy, 88, No. 2, 320.

Safilios-Rothschild, Constantina. 1977. The relationship between women's work and fertility: Some methodological and theoretical issues. In The fertility of working women, ed. S. Kupinsky. New York: Praeger.

Schultz, T.P. 1978. The influence of fertility on labor supply of married women: Simultaneous equation estimates. Research in Labor Economics, 2, 273-351.

Smith-Lovin, Lynn, and Ann R. Tickamyer. 1978. Labor force participation, fertility behavior, and sex role attitudes. American Sociological Review, 43, 541-56.

Smith-Lovin, Lynn, and Ann R. Tickamyer. 1982. Fertility and patterns of labor force participation among married women. Social Biology, forthcoming.

Standing, G. 1978. Labour force participation and development. Geneva: International Labour Office.

Stolzenberg, Ross M. 1980. The measurement and decomposition of causal effects in non-linear and non-additive models. Sociological methodology, 1980, ed. K. Schuessler. San Francisco: Jossey-Bass.

Stolzenberg, Ross M., and Linda J. Waite. 1981. Labor market characteristics and the labor force participation of individuals. Rand Paper Series P-6705, Rand Corporation, Santa Monica, Calif.

Stycos, J.M., and R.H. Weller. 1967. Female working roles and fertility. Demography, 4, 210-217.

Sullivan, T., and S. Pedraza-Bailey. 1979. Differential success among Cuban American and Mexican American immigrants. Final Report, Employment and Training Administration, U.S. Department of Labor.

Tienda, Marta. 1981. Hispanic origin workers in the U.S. labor market: Comparative analyses of employment and earnings. Final Report, Employment and Training Administration, U.S. Department of Labor.

U.S. Bureau of the Census. 1977. Technical documentation of the 1976 Survey of Income and Education. Washington, D.C.: USGPO.

Waite, L. 1981. Working wives and the family life cycle. American Journal of Sociology, 86, 272-294.

Waite, Linda J., and Ross M. Stolzenberg. 1976. Intended childbearing and labor force participation of young women: Insights from nonrecursive models. American Sociological Review, 41, 235-251.

Weller, R., W. Bertrand, and C. Harter. 1979. Female employment status and fertility in Cali, Columbia. Paper presented at the annual meetings of the Population Association of America.

Wilson, K., and A. Portes. 1980. Immigrant enclaves: An analysis of the labor market experience of Cubans in Miami. American Journal of Sociology, 56, 293-319.